



EBERLINE SERVICES

0058312

H1486

November 21, 2001

Ms. Joan Kessner
Bechtel Hanford Inc.
3550 George Washington Way
Richland, WA 99352
MSIN: H0-25

Reference: **P.O. #630**
Eberline Services R1-09-001-7073 SDG H1486

Dear Ms. Kessner:

Enclosed is the data report for three solid samples designated under SAF No. B01-058 received at Eberline Services on August 31, 2001. The samples were analyzed according to the accompanying chain-of-custody documents.

Please call if you have any questions concerning this report.

Sincerely,

Melissa C. Mannion
Program Manager

MCM

Enclosure: Data Package

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Analytical Services
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Toll Free (800) 841-5487
www.eberlineservices.com

1.0 GENERAL

Bechtel Hanford Inc. (BHI) Sample Delivery Group H1486 was composed of three solid (soil) samples designated under SAF No. B01-058 with a Project Designation of: 200-TW-1 & -2 – Soil Sampling.

The samples were received as stated on the Chain-of-Custody documents. Any discrepancies are noted on the Eberline Services Sample Receipt Checklist. The results were transmitted to BHI via e-Fax on November 8 and 14, 2001.

2.0 ANALYSIS NOTES

2.1 Isotopic Plutonium Analyses

No problems were encountered during the course of the analyses.

2.2 Total Strontium Analyses

No problems were encountered during the course of the analyses.

2.3 Nickel-63 Analyses

No problems were encountered during the course of the analyses.

2.4 Americium-241 Analyses

Due to Pu-239 on the Am-241 planchets for samples B12ML4 and B12ML5, the samples had to be reworked in chemistry to remove the Pu. The results from the reworked samples are reported herein. No other problems were encountered during the course of the analyses.

2.5 Gamma Spectroscopy Analyses

No problems were encountered during the course of the analyses.

2.6 Isotopic Thorium Analyses

No problems were encountered during the course of the analyses.

2.7 Technetium-99 Analyses

No problems were encountered during the course of the analyses.

2.8 Neptunium-237 Analyses

Due to a low yield Np-237 sample B12ML4 was reanalyzed with new QC samples. Sample B12ML4 was batched with Np-237 reanalysis samples from SDG H1486 (7070). No other problems were encountered during the course of the analyses.

2.9 Carbon-14 Analyses

No problems were encountered during the course of the analyses.

2.10 Isotopic Uranium Analyses

No problems were encountered during the course of the analyses.

2.11 Total Uranium Analyses

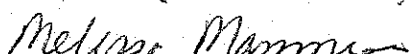
There was contamination in the method blank (0.32 $\mu\text{g/g}$). The activity was above the RDL (0.1 $\mu\text{g/g}$) for total uranium, but less than 5-times the MDA (0.28 $\mu\text{g/g}$). No other problems were encountered during the course of the analyses.

2.12 Tritium Analyses

The H3 matrix spike had a percent recovery (79%) below the 3σ limits (87 to 113%) and was slightly below the laboratory protocol limits (80 to 120%), but within BHI's limits (60 to 140%). No other problems were encountered during the course of the analyses.

Case Narrative Certification Statement

"I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."



Melissa C. Mannion
Program Manager

11/21/01
Date

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP H1486

R109001-01

B12ML4

DATA SHEET

SDG <u>7073</u>	Client/Case no <u>Hanford</u>	SDG <u>H1486</u>
Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
Lab sample id <u>R109001-01</u>	Client sample id <u>B12ML4</u>	
Dept sample id <u>7073-001</u>	Location/Matrix <u>B-7/200 E</u>	<u>SOLID</u>
Received <u>08/31/01</u>	Collected/Weight <u>08/26/01 23:45</u>	<u>275.3 g</u>
% solids <u>90.8</u>	Custody/SAF No <u>B01-058-249</u>	<u>B01-058</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	0.872	1.1	1.8	400	U	H
Carbon 14	14762-75-5	3.15	2.5	4.0	50	U	C
Nickel 63	13981-37-8	585	640	<u>1100</u>	30	U	NI_L
Total Strontium	SR-RAD	5710000	10000	<u>230</u>	1.0		SR
Americium 241	14596-10-2	770	260	<u>140</u>	1.0		AM
Technetium 99	14133-76-7	1.56	0.46	<u>1.3</u>	15	J	TC
Thorium 228	14274-82-9	6.78	27	52		U	TH
Thorium 230	14269-63-7	108	81	83	1.0		TH
Thorium 232	TH-232	0	14	52	1.0	U	TH
Total Uranium (ug/g)	7440-61-1	139	15	<u>0.28</u>	0.10	B	U_T
Uranium 233	U-233/234	46.9	40	<u>51</u>	1.0	U	U
Uranium 235	15117-96-1	0	16	<u>62</u>	1.0	U	U
Uranium 238	U-238	26.8	27	<u>51</u>	1.0	U	U
Neptunium 237	13994-20-2	3.71	15	<u>28</u>	1.0	U	NP
Plutonium 238	13981-16-3	140	71	<u>90</u>	1.0		PU
Plutonium 239/240	PU-239/240	25800	2100	<u>89</u>	1.0		PU
Potassium 40	13966-00-2	572	190	<u>130</u>			GAM
Cobalt 60	10198-40-0	U		<u>35</u>	0.050	U	GAM
Cesium 137	10045-97-3	67300	380	<u>130</u>	0.10		GAM
Radium 226	13982-63-3	U		<u>170</u>	0.10	U	GAM
Radium 228	15262-20-1	U		<u>200</u>	0.20	U	GAM
Europium 152	14683-23-9	U		<u>390</u>	0.10	U	GAM
Europium 154	15585-10-1	U		<u>98</u>	0.10	U	GAM
Europium 155	14391-16-3	U		<u>490</u>	0.10	U	GAM
Thorium 228	14274-82-9	U		<u>230</u>		U	GAM
Thorium 232	TH-232	U		<u>200</u>		U	GAM
Uranium 235	15117-96-1	U		<u>670</u>		U	GAM
Uranium 238	U-238	U		<u>5700</u>		U	GAM

200-TW-1 & 2 - Soil Sampling

DATA SHEETS
Page 1
SUMMARY DATA SECTION
Page 21

Lab id	<u>TMANC</u>
Protocol	<u>Hanford</u>
Version	<u>Ver 1.0</u>
Form	<u>DVD-DS</u>
Version	<u>3.06</u>
Report date	<u>11/14/01</u>

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP H1486

7073-001

B12ML4

DATA SHEET

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Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
Lab sample id <u>R109001-01</u>	Client sample id <u>B12ML4</u>	
Dept sample id <u>7073-001</u>	Location/Matrix <u>B-7/200 E</u>	<u>SOLID</u>
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% solids <u>90.8</u>	Custody/SAF No <u>B01-058-249</u>	<u>B01-058</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	52.9		26		X	TH
Thorium 230	14269-63-7	16.8	47	75	1.0	U	TH
Thorium 232	TH-232	3.37	13	26	1.0	U	TH

200-TW-1 & 2 - Soil Sampling

Lab id <u>TMANC</u>
Protocol <u>Hanford</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>08/19/02</u>

Page replaced samples on 9-11-02 by Jma